



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,672	03/08/2002	Mingdong Zhou	524012000200	6586

7590 03/23/2005

Peng Chen  
Morrison & Foerster  
Suite 500  
3811 Valley Center Drive  
San Diego, CA 92130-2332

EXAMINER

AUDET, MAURY A

ART UNIT	PAPER NUMBER
----------	--------------

1654

DATE MAILED: 03/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/980,672

Applicant(s)

ZHOU, MINGDONG

Examiner

Maury Audet

Art Unit

1654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2004.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-15,18-24,28-31,34 and 37-58 is/are pending in the application.
- 4a) Of the above claim(s) 1,3-15,18-24,28 and 29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 30,31,34 and 37-58 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION*****Information Disclosure Statement***

It is noted that the information disclosure statement filed 06/27/02 still fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because a number of references do not contain translations. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C(1).

***Election/Restrictions***

Applicant's election with traverse of Group II, claims 2, 16-17, and 25-29 in the reply filed 02/05/04 is acknowledged. The traversal is on the ground(s) that Groups I-IV, Vi, VIII, and IX can be searched in the same class and subclass and accordingly, there is no additional search burden. This is not found persuasive for the reasons of record. Claims 2, 16-17, 25-27, 32-33, and 35-36 have been cancelled. Claims 1, 3-15, 18-24, 28-29, 30-31, 34, and 37-58 are pending. Claims 1, 3-15, 18-24, and 28-29 are withdrawn from consideration as being drawn to non-elected subject matter. Claims 30-31, 34, and 37-58 are examined on the merits.

The requirement is still deemed proper and is therefore made FINAL.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

It is noted, as Applicant indicated on page 20 of the response of 02/05/2004, that Examiner mistakenly rejected claims 2, 16-17, and 25-27 (now amended into claims 30-31, 34, and 37-58) under 35 U.S.C. 102(e) as being anticipated by Balligand et al. (Jan./Feb.), 1997; 3(4):351-360), and that rejection should have properly been made under 102(b).

The rejections of claims 30-31, 34, and 37-58 under 35 U.S.C. 102(b) as being anticipated by WO 94/26298 (Cambridge Neuroscience; Sklar et al.) and Balligand et al. (Jan./Feb.), 1997; 3(4):351-360), as well as the rejection of claims 2, 16-17, and 25-27 under 35 U.S.C. 102(e) as being anticipated by Sklar et al. (US 644642 B1; Cambridge Neuroscience)

Art Unit: 1654

and Gwynne et al. (US 6087323; Cambridge Neuroscience), are maintained for the reasons of record. Applicant's arguments have been fully considered, but are not found persuasive. In summary, Applicant argues that the references do not teach a method of using neuregulin to induce remodeling of cardiac muscle cell sarcomeric and cytoskeleton structures or cell-cell adhesions, because the references do not expressly teach the underlying bio/physiological process that neuregulin is being administered in an amount sufficient to activate the MAP kinase pathway in cardiac muscle cells (and related cascade effects). Goldman et al. (US 6,162,641) and Reh et al. (US 6,750,196) are herein cited of record merely to indicate neuregulin's known intrinsic bio/physiological effect in cardiac cells. Goldman et al. teach neuregulin's effect through the MAP kinase pathway, in a method of using neuregulin in to treat muscle tissue, specifically cardiac muscle tissue (col. 7, lines 29-34), exogenously, that acts at a receptor on a cell [i.e. cardiac muscle cell] to cause a series of biochemical alterations in the MAP kinase signaling pathway/cascade within a cell [i.e. cardiac muscle cell] (col. 17, lines 38-42; Example 4, col. 33, lines 49-55). Reh et al. teach that neuregulins are membrane-anchored peptide growth factors that may mediate cell-cell interactions through cell-adhesion (col. 4, lines 17-23). Thus, since the references teach the use of neuregulin for cardiac muscle regeneration and related objectives, it is intrinsic that the underlying bio/physiological processes (i.e. cell-cell adhesion stimulation) achieving these objectives are carried out through an effective amount of neuregulin to activate the MAP kinase pathway.

***Claim Rejections - 35 USC § 103***

The rejection of claims 30-31, 34, and 37-58 under 35 U.S.C. 103(a) as being unpatentable over any of WO 94/26298 (Cambridge Neuroscience; Sklar et al.), Sklar et al. (US 644642 B1; Cambridge Neuroscience), Gwynne et al. (US 6087323; Cambridge Neuroscience), or Balligand et al. (Jan./Feb.), 1997; 3(4):351-360), is maintained for the reasons of record. Applicant's arguments have been fully considered, but are not found persuasive (see the discussion above, as also applicable in its entirety to the rejections under 35 U.S.C. § 103).

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Art Unit: 1654

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maury Audet whose telephone number is 571-272-0960. The examiner can normally be reached from 7:00 AM – 5:30 PM, off Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bruce Campell can be reached at 571-272-0974. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197.

MA, 03/18/2005



CHRISTOPHER R. TATE  
PRIMARY EXAMINER